

R. Shukla

1632

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/135,238B DATE: 08/01/2000
TIME: 16:10:19

Input Set : A:\A65635.app
Output Set: N:\CRF3\08012000\I135238B.raw

3 <110> APPLICANT: Nolan, Garry P.
4 Hitoshi, Yasumichi
6 <120> TITLE OF INVENTION: TOSO
8 <130> FILE REFERENCE: A65635-1/DJB/RMS
10 <140> CURRENT APPLICATION NUMBER: 09/135,238B
11 <141> CURRENT FILING DATE: 1998-08-17
13 <150> PRIOR APPLICATION NUMBER: 06/066,063
14 <151> PRIOR FILING DATE: 1997-11-17
16 <160> NUMBER OF SEQ ID NOS: 31
18 <170> SOFTWARE: PatentIn Ver. 2.0
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 1910
22 <212> TYPE: DNA
23 <213> ORGANISM: Homo sapiens
25 <400> SEQUENCE: 1
26 aaaggagtaa gcagcgtgtc tccatccccc tctctagggg ctcttggatg gaccttgcac 60
27 tctagaaggg acaatggact tctggctttg gccactttac ttoctgccag tatcaggggc 120
28 cctgaggatc ctcccagaag taaaggtaga gggggagctg ggcggatcag ttaccatcaa 180
29 atgcccactt cctgaaatgc atgtgaggat atatctgtgc cgggagatgg ctggatctgg 240
30 aacatgtggt accgtggtat ccaccaccaa ctccatcaa gcagaataca agggccgagt 300
31 tactctgaag caataccac gcaagaatct gtccctagt gaggtaaac acgtgacaga 360
32 aagtgcacgc ggagtctatg cctgcccggc gggcatgaac acagaccggg gaaagaccca 420
33 gaaagtcacc ctgaatgtcc acagtgaata cgagccatca tgggaagagc agccaatgcc 480
34 tgagactcca aaatgggttc atctgcccta ttgttccag atgcctgcat atgccagttc 540
35 ttccaaatcc gtaaccagag ttaccacacc agctcaaaagg ggcaagggtc ctccagttca 600
36 ccactcctcc ccaccacccc aaatcaccca ccgccctega gtgtccagag catcttcagt 660
37 agcaggtgac aagccccgaa ccttcctgcc atccactaca gcctcaaaaa tctcagctct 720
38 ggaggggctg ctcaagcccc agacgcccc ctacaaccac cacaccaggc tgcacaggca 780
39 gagagcactg gactatggct cacagtctgg gagggaaagg caaggatttc acatcctgat 840
40 ccgaccatc ctgggcccct tctgtctggc acttctgggg ctggtggtga aaagggccgt 900
41 tgaaggaggg aaagccctct ccaggcgggc ccgcccagct gccgtgagga tgcgcgcct 960
42 ggagagctcc cagagggccc gcgggtcgcc gcgaccgcgc tcccaaaaca acatctacag 1020
43 cgccctcccg cgccgcgctc tggagcggac gctgcaggca caggggaggc ccccgttccc 1080
44 ggccccggag cgccgttgcc ccccgcccc ctgcagggtg ctgaatctcc ctggctccat 1140
45 gcccatctc tgaagaccag ctgtgaatac gtgagcctct accaccagcc tgcggccatg 1200
46 atggaggaca gtgattcaga tgactacatc aatgttctc cctgacaaact cccagctat 1260
47 cccccaaccc caggctcgga ctgtggtgcc aaggagtctc atctatctgc tgatgtccaa 1320
48 tactgtcttc atgtgttctc agagccctca tcaattccca tgcccctat cgactcccat 1380
49 ccccatctat ctgtggccct gagcatggct ctgccccag gtctgttgc acacctggc 1440
50 agccccctgt agttgacagg taagctgtag gcattgttag caattgtccc aatgccactt 1500
51 gcttcttttc caagccgtcg aacagactgt gggatttgca gagggtttct tccatgtctt 1560
52 tgaccacagg gtgttgttgc tgccaggctc tagatcacat ggcacaggc tggggcagag 1620
53 gcatagctat tgtctcggc atccttccca gggttgggtc ttacacaaat agaaggctct 1680
54 tgctctgagt tatgtgacgt gcctcagccc catggactaa gcaggggtct ggtataaaca 1740
55 ctcttggaac cgcctttgcc ctgatccaaa tgttagcact tgcagtgaac cgtctactta 1800
56 tctcaagttc tatgctaaa gcaatttato ttgatgtgat gataaaccaa acttattagc 1860
57 aagatatgca tatatatcca taaattctct ttactctgtc tccatccttt 1910

Does Not Comply
Corrected Diskette Needed

RAW SEQUENCE LISTING DATE: 08/01/2000
 PATENT APPLICATION: US/09/135,238B TIME: 16:10:19

Input Set : A:\A65635.app
 Output Set: N:\CRF3\08012000\I135238B.raw

```

59 <210> SEQ ID NO: 2
60 <211> LENGTH: 390
61 <212> TYPE: PRT
62 <213> ORGANISM: Homo sapiens
64 <400> SEQUENCE: 2
65 Met Asp Arg Trp Leu Trp Pro Leu Tyr Phe Leu Pro Val Ser Gly Ala
66   1           5           10           15
68 Leu Arg Ile Leu Pro Glu Val Lys Val Glu Gly Glu Leu Gly Gly Ser
69           20           25           30
71 Val Thr Ile Lys Cys Pro Leu Pro Glu Met His Val Arg Ile Tyr Leu
72           35           40           45
74 Cys Arg Glu Met Ala Gly Ser Gly Thr Cys Gly Thr Val Val Ser Thr
75           50           55           60
77 Thr Asn Phe Ile Lys Ala Glu Tyr Lys Gly Arg Val Thr Leu Lys Gln
78   65           70           75           80
80 Tyr Pro Arg Lys Asn Leu Phe Leu Val Glu Val Thr Gln Leu Thr Glu
81           85           90           95
83 Ser Asp Ser Gly Val Tyr Ala Cys Gly Ala Gly Met Asn Thr Asp Arg
84           100          105          110
86 Gly Lys Thr Gln Lys Val Thr Leu Asn Val His Ser Glu Tyr Glu Pro
87           115          120          125
89 Ser Trp Glu Glu Gln Pro Met Pro Glu Thr Pro Lys Trp Phe His Leu
90           130          135          140
92 Pro Tyr Leu Phe Gln Met Pro Ala Tyr Ala Ser Ser Lys Phe Val
93   145          150          155          160
95 Thr Arg Val Thr Thr Pro Ala Gln Arg Gly Lys Val Pro Pro Val His
96           165          170          175
98 His Ser Ser Pro Thr Thr Gln Ile Thr His Arg Pro Arg Val Ser Arg
99           180          185          190
101 Ala Ser Ser Val Ala Gly Asp Lys Pro Arg Thr Phe Leu Pro Ser Thr
102           195          200          205
104 Thr Ala Ser Lys Ile Ser Ala Leu Glu Gly Leu Leu Lys Pro Gln Thr
105           210          215          220
107 Pro Ser Tyr Asn His His Thr Arg Leu His Arg Gln Arg Ala Leu Asp
108   225          230          235          240
110 Tyr Gly Ser Gln Ser Gly Arg Glu Gly Gln Gly Phe His Ile Leu Ile
111           245          250          255
113 Pro Thr Ile Leu Gly Leu Phe Leu Leu Ala Leu Leu Gly Leu Val Val
114           260          265          270
116 Lys Arg Ala Val Glu Arg Arg Lys Ala Leu Ser Arg Arg Ala Arg Arg
117           275          280          285
119 Leu Ala Val Arg Met Arg Ala Leu Glu Ser Ser Gln Arg Pro Arg Gly
120           290          295          300
122 Ser Pro Arg Pro Arg Ser Gln Asn Asn Ile Tyr Ser Ala Cys Pro Arg
123   305          310          315          320
125 Arg Ala Arg Gly Ala Asp Ala Ala Gly Thr Gly Glu Ala Pro Val Pro
126           325          330          335
128 Gly Pro Gly Ala Pro Leu Pro Pro Ala Pro Leu Gln Val Ser Glu Ser
129           340          345          350

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/135,238B
 DATE: 08/01/2000
 TIME: 16:10:19

Input Set : A:\A65635.app
 Output Set: N:\CRF3\08012000\I135238B.raw

```

131 Pro Trp Leu His Ala Pro Ser Leu Lys Thr Ser Cys Glu Tyr Val Ser
132      355      360      365
134 Leu Tyr His Gln Pro Ala Ala Met Met Glu Asp Ser Asp Ser Asp Asp
135      370      375      380
137 Tyr Ile Asn Val Pro Ala
138 385      390
141 <210> SEQ ID NO: 3
142 <211> LENGTH: 84
143 <212> TYPE: PRT
144 <213> ORGANISM: Homo sapiens
146 <220> FEATURE:
147 <221> NAME/KEY: UNSURE
148 <222> LOCATION: (13)..(16)
149 <223> OTHER INFORMATION: The xaa at positions 13 through 16 represents an
150 unknown amino acid.
152 <220> FEATURE:
153 <221> NAME/KEY: UNSURE
154 <222> LOCATION: (44)..(48)
155 <223> OTHER INFORMATION: The xaa at positions 44 through 48 represents an
156 unknown amino acid.
158 <220> FEATURE:
159 <221> NAME/KEY: UNSURE
160 <222> LOCATION: (61)..(62)
161 <223> OTHER INFORMATION: The xaa at positions 61 and 62 represents an
162 unknown amino acid.
164 <400> SEQUENCE: 3
W--> 165 Val Thr Ile Lys Cys Pro Leu Pro Glu Met His Val Xaa Xaa Xaa Xaa
166      1      5      10      15
168 Arg Ile Tyr Lys Cys Arg Glu Asn Ala Gly Ser Gly Thr Cys Gly Thr
169      20      25      30
W--> 171 Val Val Ser Thr Thr Asx Phe Ile Lys Ala Glu Xaa Xaa Xaa Xaa Xaa
172      35      40      45
W--> 174 Tyr Lys Gly Arg Val Thr Leu Lys Gln Tyr Pro Arg Xaa Xaa Lys Asn
175      50      55      60
177 Leu Phe Leu Val Glu Val Thr Glx Leu Thr Glu Ser Asp Ser Gly Val
178 65      70      75      80
180 Tyr Ala Cys Gly
184 <210> SEQ ID NO: 4
185 <211> LENGTH: 84
186 <212> TYPE: PRT
187 <213> ORGANISM: Homo sapiens
189 <220> FEATURE:
190 <221> NAME/KEY: UNSURE
191 <222> LOCATION: (13)..(14)
192 <223> OTHER INFORMATION: The xaa at positions 13 and 14 represents an
193 unknown amino acid.
195 <220> FEATURE:
196 <221> NAME/KEY: UNSURE
197 <222> LOCATION: (61)..(62)

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/135,238B
 DATE: 08/01/2000
 TIME: 16:10:19

Input Set : A:\A65635.app
 Output Set: N:\CRF3\08012000\I135238B.raw

```

198 <223> OTHER INFORMATION: The xaa at positions 61 and 62 represents an
199     unknown amino acid.
201 <220> FEATURE:
202 <221> NAME/KEY: UNSURE
203 <222> LOCATION: (27)
204 <223> OTHER INFORMATION: The xaa at position 27 represents an unknown amino
205     acid.
207 <400> SEQUENCE: 4
W--> 208 Leu Ser Leu Thr Cys Thr Val Ser Gly Ser Thr Phe Xaa Xaa Ser Asn
      1          5          10          15
W--> 211 Asp Tyr Tyr Thr Trp Val Arg Gln Pro Pro Xaa Gly Arg Gly Leu Glu
      20          25          30
      214 Trp Ile Gly Tyr Val Phe Tyr His Gly Thr Ser Asp Asp Thr Thr Pro
      35          40          45
W--> 217 Leu Arg Ser Arg Val Thr Met Leu Val Asp Thr Ser Xaa Xaa Lys Asn
      50          55          60
      220 Gln Phe Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val
      65          70          75          80
      223 Tyr Tyr Cys Ala
      227 <210> SEQ ID NO: 5
      228 <211> LENGTH: 84
      229 <212> TYPE: PRT
      230 <213> ORGANISM: Homo sapiens
      232 <220> FEATURE:
      233 <221> NAME/KEY: UNSURE
      234 <222> LOCATION: (13)
      235 <223> OTHER INFORMATION: The xaa at position 13 represents an unknown amino
      236     acid.
      238 <220> FEATURE:
      239 <221> NAME/KEY: UNSURE
      240 <222> LOCATION: (45)..(50)
      241 <223> OTHER INFORMATION: The xaa at positions 45 through 50 represents an
      242     unknown amino acid.
      244 <220> FEATURE:
      245 <221> NAME/KEY: UNSURE
      246 <222> LOCATION: (60)..(63)
      247 <223> OTHER INFORMATION: The xaa at positions 60 through 63 represents an
      248     unknown amino acid.
      250 <400> SEQUENCE: 5
W--> 251 Val Thr Leu Thr Cys Arg Ser Ser Thr Gly Ala Val Xaa Thr Thr Ser
      1          5          10          15
      254 Asn Tyr Ala Asn Trp Val Gln Gln Lys Pro Asp His Leu Phe Thr Gly
      20          25          30
W--> 257 Ile Gly Gly Thr Asn Asn Arg Ala Pro Gly Val Pro Xaa Xaa Xaa Xaa
      35          40          45
W--> 260 Xaa Xaa Ala Arg Phe Ser Gly Ser Leu Ile Gly Xaa Xaa Xaa Xaa Asn
      50          55          60
      263 Lys Ala Ala Leu Thr Ile Thr Gly Ala Gln Thr Glu Asp Glu Ala Ile
      65          70          75          80

```

RAW SEQUENCE LISTING DATE: 08/01/2000
 PATENT APPLICATION: US/09/135,238B TIME: 16:10:19

Input Set : A:\A65635.app
 Output Set: N:\CRF3\08012000\I135238B.raw

```

266 Met Phe Cys Ala
270 <210> SEQ ID NO: 6
271 <211> LENGTH: 84
272 <212> TYPE: PRT
273 <213> ORGANISM: Homo sapiens
275 <220> FEATURE:
276 <221> NAME/KEY: UNSURE
277 <222> LOCATION: (12)..(15)
278 <223> OTHER INFORMATION: The xaa at positions 12 through 15 represents an
279     unknown amino acid.
281 <220> FEATURE:
282 <221> NAME/KEY: UNSURE
283 <222> LOCATION: (43)..(48)
284 <223> OTHER INFORMATION: The xaa at positions 43 through 48 represents an
285     unknown amino acid.
287 <220> FEATURE:
288 <221> NAME/KEY: UNSURE
289 <222> LOCATION: (61)..(62)
290 <223> OTHER INFORMATION: The xaa at positions 61 through 62 represents an
291     unknown amino acid.
293 <400> SEQUENCE: 6
W--> 294 Thr Ser Leu Asn Cys Thr Phe Ser Asp Ser Ala Xaa Xaa Xaa Xaa Ser
      295   1      5      10      15
      297 Gln Tyr Phe Trp Trp Tyr Arg Gln His Ser Gly Lys Ala Pro Lys Ala
      298           20           25           30
W--> 300 Leu Met Ser Ile Phe Ser Asn Gly Glu Lys Xaa Xaa Xaa Xaa Xaa
      301           35           40           45
W--> 303 Glu Glu Gly Arg Phe Thr Ile His Leu Asn Lys Ala Xaa Xaa Ser Leu
      304           50           55           60
      306 His Phe Ser Leu His Ile Arg Asp Ser Gln Pro Ser Asp Ser Ala Leu
      307   65           70           75           80
      309 Tyr Leu Cys Ala
313 <210> SEQ ID NO: 7
314 <211> LENGTH: 84
315 <212> TYPE: PRT
316 <213> ORGANISM: Homo sapiens
318 <220> FEATURE:
319 <221> NAME/KEY: UNSURE
320 <222> LOCATION: (11)..(14)
321 <223> OTHER INFORMATION: The xaa at positions 11 through 14 represents an
322     unknown amino acid.
324 <220> FEATURE:
325 <221> NAME/KEY: UNSURE
326 <222> LOCATION: (18)
327 <223> OTHER INFORMATION: The xaa at position 18 represents an unknown amino
328     acid.
330 <220> FEATURE:
331 <221> NAME/KEY: UNSURE
332 <222> LOCATION: (28)

```

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

DATE: 08/01/2000

PATENT APPLICATION: US/09/135,238B

TIME: 16:10:20

Input Set : A:\A65635.app

Output Set : N:\CRF3\08012000\I135238B.raw

L:165 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:171 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:174 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:211 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:260 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:303 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:346 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:352 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:398 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:401 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:404 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:407 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:435 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:441 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:478 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:481 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:593 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:596 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:605 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:637 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13